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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,551

03/17/2004

Mark Howard Krietzman

EPWC002

3715

7590

07/05/2005

Mark Krietzman
P.O. Box 3185
Palos Verdes, CA 90274

EXAMINER

SWINEHART, EDWIN L

ART UNIT

PAPER NUMBER

3617

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,551

Applicant(s)

KRIETZMAN, MARK HOWARD

Examiner

Ed Swinehart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-21 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-21 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9,12-21 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is not understood. Firstly, the claim set forth a through the hull heat exchange means in direct thermal contact with a portion of the PEMFC, and then sets forth “whereby...the radiated heat from the PEMFC is exchanged directly (emphasis added) with the marine environment. As set forth such would appear to be a mutually exclusive arrangement. How can the PEMFC transfer heat directly to the marine environment, if another element (heat exchange means) resides thereinbetween?

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8,12-20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitman in view of Menard et al.

Schmitman discloses a PEMFC fuel cell as claimed, including both hydrogen and oxygen supply, rechargeable battery, step-up transformer and an AC converter.

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Schmitman fails to disclose a heat exchanger as claimed.

Menard discloses same on a small watercraft, and such includes fins, and an exterior portion of the watercraft hull.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide for additional heat transfer in the watercraft of Schmitman as taught by Menard et al.

Such a combination would have been desirable at the time of the invention so as to provide for a means to dissipate heat to the environment, when such is not needed for heating water.

Re “portion of the PEMFC”, such fails to define any specific structure and/or arrangement so as to define over the waste heat transfer system of Schmitman.

5. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitman in view of Menard et al. as applied against claims 8 and 20 above, and further in view of Profitt et al.

Schmitman fails to disclose a sensor providing information to a controller about the charge of a battery.

Profitt discloses same.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a battery charge controller to Schmitman as taught by Profitt.

Such a combination would have been desirable at the time the invention was made so as to provide adequate and safe charging of the batteries.

6. Applicant's arguments filed 5/20/2005 have been fully considered but they are not persuasive.

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In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Schmitman provides a ship based propulsion engine which produces excess heat, and Menard et al. teaches a ship provided with means to transfer excess heat to the environment. The references beg for combination.

Applicant argues that Schmitman teaches away from the combination, as he uses such excess heat aboard ship to perform desired functions.

The examiner does not disagree that Schmitman uses such excess heat, however one of ordinary skill in the art would recognize, that designing such a system, to utilize 100% of the excess generated heat would be difficult at best, and to provide such a system without a means to dissipate any excess heat beyond that which the system was designed to use would be folly at best.

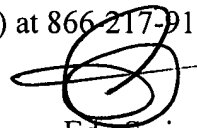
Furthermore, any vehicle having an engine therein producing heat, will transfer same to the environment, due to internal heating of the hood or hull.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ed Swinehart whose telephone number is 571-272-6688. The examiner can normally be reached on Monday through Thursday 6:30 am to 2:00 pm..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'Ed Swinehart', is written over the printed name.

Ed Swinehart
Primary Examiner
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